PHILADELPHIA, AUGUST 3, 1878.

ORIGINAL LECTURES.

CLINICAL LECTURE.

A RARE CASE OF ACUTE PHLEGMONOUS GASTRITIS IN CONNECTION WITH CHRONIC BRIGHT'S DISEASE — RESULTS OF PLEURISY—CATARRHAL JAUNDICE.

Delivered at Bellevue Hospital, N.Y.,

BY PROF. AUSTIN FLINT, SR.

(Reported for the *Philadelphia Medical Times.*)

GENTLEMEN: I should have liked to present to you the patient whose case I shall now relate to you; but I am prevented by the best of reasons. He was suffering from phlegmonous inflammation of the stomach,—an affection so rare that a gentleman who has looked up the literature of the subject informs me that this is only the thirty-second case on record. He was admitted to the hospital two days ago, and died last evening. When I first saw him, the day before yesterday, his most prominent trouble was suppression of urine.

He was a man in middle life, who had had syphilis, and who was probably a hard drinker. He stated that he had been in good health up to three days before his admission, when he was taken with violent vomiting, and from that time suffered from severe and constant pain in the back and head. His urine also became scanty, and the last that he had passed (and then but a small quantity) was twenty-six hours before coming into the hospital. He was found to be weak and anæmic, with a pulse of 120, and his abdomen was swollen and tense, but not very tender on palpation.

A catheter was passed, but no urine came away. Wet cups were applied over the kidneys, and jaborandi and croton oil, followed by digitalis, were given internally; these measures, of course, being resorted to with a view of producing a vicarious elimination of urea from the system. In addition, he was given whisky and aromatic spirits of ammonia. He perspired freely, and in about an hour passed a large quantity of urine. Later the cupping was repeated, with the effect of entirely relieving the pain in the back, and the other measures were also repeated from time to time. There were coma and some œdema of the lungs preceding death.

At the autopsy it was found that there was well-marked hypertrophy of the left ventricle of the heart, which was otherwise normal. The kidneys showed the characteristics of chronic parenchymatous nephritis, and, indeed, we had a right to infer the presence of Bright's disease from the fact that there was cardiac hypertrophy without valvular lesions. When this state of affairs is found to exist, there is always strong ground of presumption that there is kidney trouble. As an instance of this I may mention that this morning I saw a patient who complained of rather indefinite symptoms, but whose heart I found considerably enlarged, the apex-beat being in the sixth intercostal space; and I have little doubt that the examination of the urine will show that Bright's disease is present.

The stomach was the seat of very extensive phlegmonous inflammation, and there were accumulations of pus at various points under its peritoneal coat. In addition, there was some general peritonitis, as well as perihepatitis and perisplenitis. Both spleen and liver were enlarged, and the latter weighed one hundred ounces. As there were suppression of urine, uræmia, peritonitis, and phlegmonous gastritis, it is certainly no great wonder that the patient did not survive.

Now, gentlemen, I want you to study with me this next case, which I now see for the first time; for it is one which, so far as I can judge of it, you are all liable to meet with at any time.

The patient's name is Louis Leroy. He is a native of France, 40 years of age, and a painter by occupation; and he has been in the hospital about ten days. His family history is good, and he says that he has never had any serious illness, but that three years ago he met with an accident by which three of his ribs were broken. Three months ago he caught cold, and he then began to cough and to have a pain in the side. He also suffered from dyspnœa and general weakness.

At the present time the urine shows a healthy state of the kidneys, and no abnormal increase of temperature is shown by the thermometer. His face and gen-

eral appearance, as you observe, do not give evidence of any very serious disease; but we will not dwell upon any preliminary characteristics of the case, but go directly to the examination of the chest.

On inspection we find that there is no difference in the intercostal spaces on the two sides of the chest; but in forced respiration it is observed that he uses the right side considerably more than the left. There is greater resonance on percussion at the left than at the right summit of the chest in front. There is, as you are aware, some difference normally between the two; but here it is much more marked. Now, the question arises, Is this due to dulness at the right apex, or to exaggerated resonance at the left? Attention to the pitch and quality of the sounds will determine this, and we thus find that the resonance is more tympanitic and higher in pitch on the left than on the right side. Without being purely tympanitic, it is of the character known as vesiculo-tympanitic. Such being the character of the apex-resonance, it must be due either to pulmonary emphysema or inflammatory trouble about the lower part of the lung. On the right side there is normal resonance all over the surface of the chest; but upon the left side there is the most marked dulness, amounting to flatness, throughout the lower two-thirds of the lung, both before and behind. We can, therefore, exclude emphysema entirely.

But have we a pleuritic effusion, or a solidification of the lung, to deal with? It is evidently not an acute lobar pneumonia, as we can determine both by the history and the absence of febrile symptoms; and the chances are that there is effusion. If this is the case, we should naturally expect to find a horizontal line with resonance above and flatness below it upon the anterior, the posterior, and the lateral surface of the chest. To my surprise, however, I find that we do not get this horizontal line, the upper boundary of the dulness appearing to be very irregular in outline, especially in front and at the side. Still this does not by any means exclude effusion: it simply shows that one of the ordinary evidences of it is lacking.

Now let us try another test. If there is fluid in the pleura, the dulness on percussion which we find in the upper portion of the chest (though, as we have seen, not as high up as the apex) ought to disappear when the patient leans over or assumes the recumbent posture. But this test also fails, for the dulness still remains the same in whatever position the man places himself, the upper border of its area not changing in the least.

There is, however, still another means of exploration to be resorted to, and that is the stethoscope. If there is effusion here, vocal resonance ought to be greatly diminished, or altogether lost; while if there were solidification of the lung it would be abnormally increased, and we should have bronchophony. Now, what are the actual results obtained from auscultation in regard to this point? Over the greater part of the lung I find that vocal resonance is undiminished; but when I get quite low down posteriorly it becomes lost. Yet at this point, also, it is heard when the patient leans well forward.

The examination shows, therefore, that there is at present but a very small amount of effusion in the pleura. It is certainly not nearly sufficient in quantity to account for the very marked and extensive dulness which is found over almost the entire left side of the chest; and I think that we must look for an explanation of this in the fact that there has been a very large amount of inflammatory lymph thrown out in this case, for the absorption of which there has not as yet sufficient time elapsed. In a certain proportion of the cases of pleurisy this pathological effect is observed, and the lymph is almost always absorbed very slowly. Here the patient has undoubtedly had a larger amount of fluid effused into the pleura; but it has now almost entirely disappeared, and the case seems to be progressing favorably. When the needle of the hypodermic syringe is inserted even at a low point in the chest-walls, it is found impossible to draw off any fluid, and this is, no doubt, because what little there is left is so thick and mixed with lymph that it will not flow through such a small tube.

There is one point in regard to cases such as this about which I would put you on your guard, and which can only be positively determined by a very careful physical exploration and a thorough consideration of the history and symptoms of the case. That is, whether there is a likelihood of phthisis following upon the pleuritic attack; and, as you can readily see,

it is a matter of the greatest importance to the patient, and one which may very materially modify the prognosis in any given case.

It is well ascertained that pleurisy is not infrequently the first point in the development of phthisis, and so it is well for us always to bear this fact in mind. If there is much cough and expectoration, and if there is loss of flesh, and especially hæmoptysis, we should at least suspect the presence of the disease. In all cases of pleurisy, therefore, we should give the most careful consideration to the family history. the physical signs, and the symptoms of the case. In the present instance a thorough and satisfactory exploration of the chest is not possible just now, on account of the presence of such a large quantity of lymph about the pleura.

Here is another case, gentlemen, which I propose to study with you. From the very marked yellow discoloration of the skin, no one, whether of the medical profession or not, would have any difficulty in pronouncing the patient to be the subject of jaundice; but at the present day that would hardly be regarded as a very satisfactory diagnosis. Jaundice is always a symptom (depending on a number of different conditions); but for the sake of convenience we sometimes call it a disease. The ordinary manifestations of jaundice are very well shown in this case. In the first place, the skin of the entire body is markedly icterosed, and the conjunctiva, as is always the case, is of a still deeper tint of yellow. Here is a specimen of urine passed by the patient, and you observe that it is considerably darker in color than normal urine; though, doubtless, it is not nearly as deeply stained with bile as it was a short time ago. When it is treated with nitric acid you observe the beautiful play of colors which is characteristic of bile on the application of this test. The urine is a much better guide than the skin by which to determine in any particular case whether jaundice still persists or has disappeared; for the reason that the skin remains discolored for a considerable time after the bile ceases to be absorbed by the blood. This is because the bile-pigment in the skin is extra-vascular and is deposited in the skin itself; so that a considerable time is necessary for its removal. From the urine, on the other hand, the bile disappears as soon as it is no longer absorbed by the blood. What, then, does jaundice mean? Can we connect it with any disease, or shall we regard it as the disease itself?

This patient, Patrick G., is a native of Ireland, 43 years of age, and a carriage-maker by trade. He was admitted to the hospital three days ago. His family history is good, and he says he has usually enjoyed good health. He has had two attacks of gout, but has never had rheumatism, and, strange to say (if his word is to be relied on), has never had either gonorrhœa or syphilis. He has always worked hard, and since early manhood has been a pretty hard drinker. He has been in the habit of taking whisky undiluted, and frequently before breakfast. One day, nearly three months ago, while at his work, he noticed a very uncomfortable itching of the skin. This pruritus appears in a certain proportion of cases of jaundice, but is by no means constant in the affection. Later he also noticed blotches upon the skin, which seem to have been of the character of urticaria. This is also sometimes met with as a precursor or accompaniment of jaundice. At the same time he began to feel very weak, and to suffer from loss of sleep and appetite, and at length had to give up work. As time went on, he suffered also from pain in the head and back, and from constipation; and he now noticed that his stools were clay-colored, while his urine, which he passed more frequently than usual, became very dark. Three weeks ago the discoloration of the skin and conjunctiva commenced, and in about a week reached its maximum intensity, which has since continued up to the present time. Anorexia now became complete, and he vomited more or less every day, the matters thus voided being frequently green in color. At the time of his admission a physical exploration showed that his heart, lungs, and liver were normal, but that the spleen was somewhat enlarged. At present his fæces are still clay-colored, but not completely so.

Cases are not infrequently met with in practice in which physicians cannot at once decide definitely as to the origin of the jaundice; and only to-day I saw in consultation a patient in regard to whose case there was considerable doubt. There we found that the liver was enlarged, and I am of the opinion that it is probably

fatty. In the case now before us, however, there is no enlargement whatever of the liver; and in this connection the question very naturally arises, Do jaundiced skin and conjunctiva denote disease of the liver? Such is no doubt the prevalent opinion among the public in general; but, in reality, in the vast majority of cases of jaundice there is no disease whatever of the liver. Thus, it is the rare exception for cirrhosis, carcinoma, or either fatty or waxy degeneration of the liver to be accompanied by jaundice.

There is one point which I desire to examine particularly in this case, and that is, to find out whether there is any physical evidence of an over-accumulation of bile in the gall-bladder. When this is the case, we can ordinarily make out with great distinctness the circumscribed tumor to which the distended gall-bladder gives rise; but in the present instance I find that there is no such tumor discoverable. Twice it has occurred to me that, while making an examination of this kind, the pressure which I have employed in palpating the distended gall-bladder has caused its complete evacuation, and consequently the collapse of the little tumor which before could be easily distinguished. Here there is no evidence at all of any disease of the liver being present.

What else, then, is liable to give rise to jaundice? Something that no doubt suggests itself to many of you is an abdominal tumor of some kind causing pressure upon the ductus communis choledochus; such as an enlarged pancreas, or an accumulation of hardened fæces in the colon. Even if such a tumor existed, it might not be appreciable by any physical exploration of the abdomen; but it is altogether probable that its presence would be indicated, or at least rendered probable, by certain symptoms which could not otherwise be explained. In the present instance I think any such explanation of the jaundice can fairly be excluded: so that you see how very much we have eliminated in arriving at a conclusion,—viz., all diseases of the liver, and all kinds of tumor.

In fact, we have almost narrowed the matter down to a single supposition; but, before I mention that, I wish to say a word in regard to the pathology. It has been a strongly contested question whether we may not have the formation of bile in the blood itself. Without attempting to decide this point definitely, I may at least say that certainly in the vast majority of instances where bile is present in the blood it has been originally secreted in the liver, and has only gotten into the circulation by re-absorption. This, as it seems to me, is a strong proof of the correctness of the teachings of physiology in regard to the formation of bile: if it were not so, we should always have jaundice as an accompaniment of disease of the liver.

It is true that the jaundice here is due to obstruction; but this obstruction undoubtedly results from an inflammatory condition of the duct itself. Clinical experience teaches us that in connection with this we always have a duodenitis, as well as a gastritis, or, as it is usually denominated, gastro-duodenitis. That this is undoubtedly the condition here, we have arrived at by a process of exclusion; but the diagnosis is also corroborated by the history of the case. The patient, you will remember, for some time had loss of appetite, and vomiting, preceded by itching and an eruption of the skin, all of which are indicative of gastritis, and the pathology of the present case is undoubtedly that of the great majority of those of jaundice which we meet with in practice.

Since this is the case, therefore, we should make an error if we were to treat such cases by means of active cathartics and emetics, with a view to getting rid of the bile, as was formerly too frequently done. Such measures, as you may imagine, only increase the inflammation already present. As a rule, we do well, I think, to apply a blister over the region of the stomach, and then, in addition to such counter-irritation, we may treat whatever symptoms seem to call for interference. If there is constipation, for instance, mild laxatives may be given. In the way of remedies directed towards the inflammatory condition existing, we may select those which have a beneficial effect upon inflamed mucous membranes in other positions, and even opiates, notwithstanding the fact that opium is said to diminish the secretion of bile. In some instances, certainly, nothing seems to quiet the irritation of the stomach like it.

The prognosis is, of course, highly favorable. In this case the jaundice proper is shown to be almost over by the fact that the urine contains so little bile. But the

skin is still very deeply discolored, and I should judge that it will take about two weeks more for the absorption of the bile-pigment deposited in it, provided that there is no further obstruction of the ducts by which the bile would again be thrown into the circulation.

ORIGINAL COMMUNICATIONS.

ON THE TREATMENT OF ECZEMA RUBRUM BY MEANS OF GLYCEROLE OF THE SUBACETATE OF LEAD.

BY LOUIS A. DUHRING, M.D., AND ARTHUR VAN HARLINGEN, M.D.

THE use of glycerole of the subacetate of lead as an application in chronic eczema rubrum was first brought prominently to the notice of the profession by Mr. Balmanno Squire, of London.* But up to the present time this plan of treatment has not attracted as much attention, in this country at least, as it deserves. It is the object of the present communication to set forth the results obtained from the use of the glycerole in dispensary practice during the last six months, and these, it is believed, are of so favorable a character as to suggest a further and more extensive use of this remedy in the class of diseases to which it is applicable.

For an account of the theory of action of the glycerole, reference may be made to Mr. Squire's papers. The formula which he suggests is as follows:

Acetate of lead, 5 parts;
Litharge, 3½ parts;
Glycerine, 20 parts, by weight.

Mix, and expose for some time to a temperature of 350° F. Filter through a hot-water funnel. The clear viscid fluid resultant contains 120 grains of the subacetate of lead to the ounce. It is used as a stock from which the preparations employed are made by dilution with simple glycerine. In the cases below noted, the strength of the glycerole in any given instance is designated by the number of grains of subacetate of lead which it contains.

Although, as the title of this paper indicates, the majority of the cases of which notes are here given belong to the category of eczema rubrum, yet some instances are included of other forms of eczema. These are introduced with a view to show the effect of the glycerole in these cases, and for purposes of comparison.

Case I.—Myra W., æt. 55. Applied for treatment January 18. *E. rubrum, leg.* Disease covers the limb from ankle half-way to knee. There is œdema, infiltration, a red, weeping surface, varicose veins, intense itching and burning. The patient a large, stout woman; the affection of some months' duration. Glycerole gr. xv ad ℥i. Bits of rag saturated with lotion to be laid freshly on affected parts night and morning, and then bandage to be applied. Limb not to be washed excepting when crusts accumulate, then with hot water and brown soap. Jan. 23.—Improvement. Less œdema, little weeping, no itching or burning. The leg had only been washed once, on account of the pain this procedure caused. There was a thin white deposit over the surface. Jan. 30.—The œdema and infiltration have become so rapidly reduced that the skin is wrinkled. Pigmentation beginning. Color of surface dusky red, inclining to brown. Patient delighted with success of treatment. June 20.—No medicine for a month or more. Completely cured, excepting that a small patch of infiltrated skin remains on instep.

This was in every way a typical case of eczema rubrum, and exemplifies very well that form of disease in which the glycerole appears to act to the best advantage. The rapid diminution in the œdema and swelling was striking, and the relief given to the patient was remarkable. The case shows that where œdema is present this is reduced by the glycerole. When, however, infiltration of the upper layers of the skin is most marked (as in Case XIII.) the glycerole will often be found to exercise but little influence.

Case II.—Mary Ann S., æt. 47. Applied for treatment May 7. *E. rubrum, leg.* Palm-sized patch over front of leg, including a shallow ulcer the size of a quarter-dollar. The diseased skin red, infiltrated, and slightly moist. Sensations both of itching and burning. The limb swollen and œdematous, and showing varicose veins. Some months' duration. Glycerole gr. xx ad ℥i. Not to be washed. Elastic stocking. May 16.—Great relief. May 24.—Patch of eczema one-half original size. Ulcer entirely healed. June 6.—Nearly well.

The rapidity of cure in this case was somewhat unusual for a patient obliged to pursue her ordinary avocations without cessation. It may be attributed in part to

* Medical Times and Gazette, 1876, vol. i., March 18 and 25, and Essays on the Treatment of Skin Disease, No. 2 (second edition), London, J. & A. Churchill, 1878.

the aid given by the elastic stocking, but we are quite sure that this alone would not have cured a patch of chronic eczema with ulceration unless the glycerole had also been carefully and thoroughly applied.

Case III.—Christina D., æt. 68. Applied March 19. *E. erythematosum et fissum, palms and soles.* Aggravated case. Palms show a not unusual degree of the disease. Soles very severely affected, covered with tough, greenish-brown, heaped-up masses of horny epidermis, and deeply fissured, looking like rhinoceros-hide. Least movement causes skin to crack, and gives intense pain. March 26.—Glycerole gr. xv ad ℥i. April 2.—Improvement. Skin less red; fissures closed; much less scaliness. Soak the feet every evening in hot water, and wash them with brown soap before applying the glycerole. May 8.—Palms nearly well; only a few small scaly patches remain. Backs of hands itch. Wash with tar soap. Soles much improved, though still scaly.

Though not belonging to the class of E. rubrum, this case is noteworthy as showing the good effect of the glycerole in a peculiarly intractable form of eczema, where, it should be said, other forms of internal and external treatment had failed.

Case IV.—Jane McC., æt. 42. Applied February 5. *E. squamosum et rubrum, leg.* Hand-sized patch over front of left ankle and instep; similar but smaller patch on right sole. A number of varicose veins about ankle. Glycerole gr. xx ad ℥i. Leg not to be washed, but to be bandaged with great care. Feb. 7.—Improvement. Tendency to the formation of pustules here and there, both over seat of disease and in neighborhood. Feb. 12.—Nearly well. Thick deposits over skin. Wash off. She came two or three times more, always improving, and was discharged, finally, quite well, April 4.

A very satisfactory result. The affection was practically cured in a week, though it took some time longer to remove all traces of its existence. The formation of pustules in this case did not interfere with the cure. Usually the appearance of these lesions signifies that the glycerole does not agree.

Case V.—Joseph O'H., æt. 62. Applied May 21. *E. rubrum, leg, with ulcer.* Disease affects whole surface of both legs, from ankle to knee, and is accompanied by ulcer of right leg. Large irregular patches of inflamed and weeping integument. The interspaces red, but not moist. Legs much swollen and infiltrated. Burns, and especially itches intensely. Disease four years' duration. Has been under treatment at a large hospital the winter through, but without relief. Glycerole gr. xx ad ℥i. Wash with brown soap, and bandage carefully. June 28.—Has improved steadily under treatment. Now redness gone everywhere, except above ulcer. No itching or burning. Very grateful. July 5.—One leg quite well, the other nearly so.

The result in this case was exceptionally good, because it was obtained while the patient was living in great privation and could not follow the directions with regard to bandaging, etc., as closely as was desirable.

Case VI.—William H., æt. 32. Applied June 5. *E. rubrum, leg, with ulcers.* Patch of disease covering half the leg from ankle to calf. Half a dozen split-pea to coin-sized ulcers scattered over it. Limb much swollen and painful. Some weeks' duration. Glycerole gr. xl ad ℥i. Apply on rags. Wash leg now and then. Bandage carefully. June 30.—Within two weeks all the ulcers but one have healed; that is now just closing. Infiltration and swelling markedly decreased. Skin brown. No burning or itching. Is about to go to work.

The glycerole here used was stronger than in any of the previous cases. No difference, however, could be observed in its effect. The healing effect upon the ulcers was decidedly more favorable than we are accustomed to obtain from the ointments ordinarily employed.

Case VII.—Thomas H., æt. 50. Applied March 18. *E. rubrum, leg.* Palm-sized patch on inside of calf, and two coin-sized patches on ankle; about the latter are marked varicose veins. Glycerole gr. xv ad ℥i. Don't wash. March 22.—Decided improvement, but severe itching. Wash once with soft soap, then continue without washing again. Later the glycerole was used gr. xxv ad ℥i, and washing with tar soap was practised. June 19.—Most of the patches have become pigmented. Patient recovering.

Case VIII.—Margaret McA., æt. 48. Applied October 10, 1877. *E. rubrum, arms, neck, and face,*—chiefly forearms. Two weeks' duration. Glycerole gr. xx ad ℥i. Oct. 13.—Better. Oct. 17.—Marked improvement.

In this, which was a comparatively acute case as to its duration, though of the chronic type, the glycerole seemed to act as well as in the eczemas of the leg. Unfortunately, as in so many cases in dispensary practice, the patient disappeared before the cure was entirely accomplished, so that the final result cannot be given.

Case IX.—Robert Y., æt. 54. June 18. *E. rubrum, leg.* Has had the affection on and

off during the last ten years. Present attack is, however, of only a few weeks' duration. Disease confined to outside of left leg, extending from ankle nearly to knee. Skin for the most part red, infiltrated, covered with thick, adherent, scaly, and crustaceous lamellæ. Scattered here and there are several red, moist, oozing or weeping patches the size of a silver dollar. At times the leg itches severely; at other times it burns. Glycerole gr. xl ad ℥i. Bandage the leg well; do not wash it. June 22.—Improvement. Some of the oozing patches are almost gone; the squamous portion is softening and looking more normal. There is very little itching. June 24.—Much improvement. Had a relapse. Begin again with gtt. xxv ad ℥i. July 8.—About well.

Case X.—James L., æt. 19. June 6. *E. rubrum, leg.* Present attack about six months' duration. Usually comes in winter and goes in summer, but this year has persisted. Patch size of two palms on inside of calf, below knee. E. rubrum in centre, scattered vesicles above edge. Itches and burns. Glycerole gr. xxx ad ℥i. July 3.—Used glycerole as long as it lasted. Has done nothing for last two weeks. Patch of disease much reduced in size. Quite brown. No itching or burning. Apparently well, in fact. Continue glycerole, however, for a week or two longer.

Case XI.—Catherine D., æt. 36. November 28, 1877. *E. rubrum, leg and hand.* Patches of disease, various in size from single papules or vesicles to palm-sized, bright-red, oozing patches scattered over the leg from knee to ankle. Incipient E. rubrum back of hand. Severe itching and burning. Some months' duration. The patient a cook, and obliged to stand all day before the fire. No varicose veins. Glycerole gr. xxx ad ℥i. Refrain from washing. Bandage. The patient improved slowly for about six weeks under this treatment. Then the disease came to a stand, and pustules caused by glycerole appeared over good skin. Use of glycerole continued, however, until February 8, 1878, when color of patches was noted as brown. A week later, however, fresh crops of pustules began to appear, and the condition of the limb grew worse. March 8.—Stop glycerole; apply calomel ointment. April 2.—About well.

In this case the glycerole, although faithfully tried, failed entirely. It even seemed to disagree with the skin, causing the eruption of pustules in successive crops, as mentioned. The exact reason for this effect of the glycerole is not evident. This case, it will be observed, differed from the preceding ones in the character of the lesions, which were more superficial and acute, the color of the eruption being bright red, and not dusky, as in the usual form of eczema rubrum.

Case XII.—John O'D., æt. 73. March 14. *E. rubrum, leg.* The whole limb involved, from knee to ankle, swollen, œdematous, and having an ulcer three inches in diameter outside of, and just above, the ankle. The latter of a year's duration; the eczema five months'. Glycerole gr. xx ad ℥i. Not to be washed. Bandage. March 23.—The glycerole burns: make it gr. xv ad ℥i. April 5.—Has not done well under the glycerole. The leg is more swollen, and the ulcer no better. He suffers a good deal of pain. A few pustules can be seen scattered about over the healthy skin near the eczematous surface. Stop the glycerole and use calomel and oxide of zinc.

The absence of any subsequent history in this case leaves it in doubt as to whether the want of success here was due entirely to the failure of the glycerole, or whether it might not also in part be due to want of proper care in bandaging and rest. But there seems no question but that the glycerole failed to act as favorably as in some of the other cases noted.

Case XIII.—John B., æt. 57. February 12. *E. vesiculos, hands.* Disease affects both hands, also wrists; chiefly backs, except towards tips of fingers. Skin red, infiltrated, covered with scales and crusts, a few fissures here and there. No weeping at present, though there has been oozing formerly to some extent. Itching and burning severe. Duration about a year. Glycerole gr. xx ad ℥i on one hand; calomel and ung. zinci oxid. on other. February 19.—Improvement in both hands, but the calomel ointment has proved by far the most effectual. Stop glycerole, and use calomel alone. March 9.—Getting well under calomel ointment.

The failure of the glycerole here could not be attributed to its disagreeing with the skin, or causing irritation, as might be supposed in Case XI. It did no harm, but, on the other hand, did little or no good. It seems possible that, there being comparatively little infiltration, the disease being confined to the upper layers of the skin, the glycerole had no opportunity of exercising that osmotic influence with which it is credited by Mr. Squire.

Case XIV.—Samuel S., æt. 76. March 1. *E. rubrum, leg.* Whole limb involved. Much swelling and extreme induration; the limb feels as if carved out of wood. Skin red, inflamed, moist, and weeping, covered with crusts. Severe itching. Tendency to E. papulosum over body. The patient is an invalid, almost helpless. Glycerole gr. xx ad ℥i. Wash daily with soft soap and hot water. March 27.—Marked improvement. Less infiltration, leg assuming its normal size and

appearance, no weeping or crusting. Excepting that the itching remains unabated, the improvement is remarkable. April 11.—Improvement continues. Induration of skin continues, though somewhat less. It feels as if encased in thin brown leather. The integument cannot be pinched up, or even wrinkled, at any point. Itching is very severe. Continue glycerole. Wash with tar soap. June 12.—Improvement continuous, but slow. Itching intense, and seems to impair his condition. Stop glycerole. Ordered thymol wash. June 26—Itching markedly decreased. The thymol has given great relief.

In this instance the glycerole did its work quickly and well, up to a certain point, when it ceased to exert a beneficial effect. It seemed to have only a slight effect on the leathery condition of the integument, and absolutely no influence upon the pruritus, which was at all times a severe and trying symptom.

The results obtained in the series of cases above noted, and also in others coming under our observation during the last six months, lead to the following conclusions. In glycerole of the subacetate of lead we have a valuable addition to the therapeutics of certain forms of chronic eczema, particularly E. rubrum of the lower extremities. It is most useful in those cases where the affection is extensive, of a dusky hue, accompanied by much weeping, oozing, and infiltration of the skin, together with swelling and œdema of the subcutaneous tissues, and a full and varicose condition of the venous circulation. In such cases glycerole of the subacetate of lead, used with diligence, and followed by careful bandaging, constitutes a remedy of the highest value.

Glycerole of the subacetate of lead has not, however, any anti-pruritic qualities, excepting in so far as it may reduce the œdema which sometimes appears to give rise to pruritus. Nor has it any resolvent effect upon infiltration of the more superficial layers of the integument. In this respect it fails just in those cases and at that stage of E. rubrum where the skin is no longer acutely inflamed, but is thickened, indurated, and pruriginous; in other words, where ordinarily the preparations of tar and potash are most useful.

Glycerole of the subacetate of lead fails, moreover, to exert a favorable influence in those cases of E. rubrum where the disease shows itself in numerous variously-sized superficial patches, and where the deeper layers of the skin do not appear to be affected. With regard to its effect in the vesicular and squamous varieties of eczema, this is not satisfactory, and it is less favorable in proportion as the case departs from the typical form of E. rubrum.

Occasionally the glycerole is found to disagree with the skin. This, however, does not often happen, at least not nearly so often as in the case of glycerine.

ON THE PHYSIOLOGY OF HEMIPLEGIA.

BY B. F. LAUTENBACH, M.D., PH.D.

BY hemiplegia is meant a palsy involving the muscles of one-half of the body. All the muscles of the paralyzed side need not be affected, and usually the occipito-frontalis and internal muscles of mastication escape. As was already pointed out by Marshall Hall,* reflex movements still occur in the paralyzed limbs. When the patient labors under strong excitement, even voluntary movements frequently occur on the hemiplegic side of the body, showing that under these circumstances voluntary movements are still possible. Such cases have been reported by Wicks,† Abercrombie,‡ Carpenter,§ and numerous other authors.

The corpus striatum and optic thalamus are most frequently the seat of the lesion which produces hemiplegia. This lesion has usually, though not constantly, been found involving the side of the brain opposite to that on which the body is paralyzed. Lesions of the hemispheres, of the cerebellum, of the pons, and of the medulla oblongata, may also produce hemiplegia. The nature of these lesions varies, as does also their extent. Most usually palsy of one side of the body results from a hemorrhage following rupture of one or more of the arterial capillaries of the opposite side of the brain; but it may be caused by a tumor, by encephalitis, or by some cause which cannot be detected after death.

It is well known that the extent of brain-tissue involved by the lesion by no means determines the extent of the paralysis. In one person a lesion involving a large por-

* Lectures on the Nervous System, London, 1836.
† Vers. ein. Monog. d. grossen Veitstanz, etc., Leipsic, 1844.
‡ On the Brain, Philadelphia, 1831.
§ Human Physiology, 1855, note on p. 635.

tion of the brain will not produce paralysis, while in another a similar lesion of less extent, involving, however, the same portion of the brain, will produce hemiplegia. Again, in another patient, the lesion producing the hemiplegia may involve both sides of the brain (apparently) equally.

Why does a lesion in these various portions of the brain produce hemiplegia?

The two explanations almost universally adopted at present are—1, that hemiplegia results from the destruction of voluntary-motor centres situated in the brain; 2, that it is due to the destruction of the channels along which the voluntary-motor impulses are conveyed to the muscles.

Neither of these explanations is satisfactory, as can be shown by arguments derived from physiology and pathology.

Physiological reasons.—Destruction of any portion of the hemispheres of mammals, below man, is never followed by motor paralysis.* Destruction of either the corpus striatum or optic thalamus in animals is never followed by this symptom. Extirpation, in mammals, of the whole brain above the corpora quadrigemina, is not followed by abolition of the voluntary movements. Indeed, I have found that dogs and cats after this operation walk without more difficulty than an animal which has suddenly been blinded. Consequently, in animals below man the centres of voluntary motion are not situated in the brain above the corpora quadrigemina. Up to the time (January, 1874) that I commenced these investigations, cerebral hemiplegia had never been observed, so far as I am aware, in animals below man.

Pathological reasons.—There are numerous cases on record of destruction of these portions of the nervous system, in man, without producing any loss of movement whatsoever.

McDowell† reports the case of a boy aged 17, who was kicked in the frontoparietal region by a horse. Considerable of the brain protruded through the opening, and a portion of it sloughed away. The patient recovered without paralysis.

Mendenhall‡ reports the case of a man struck lengthwise with an axe on the right side of the head, just above the ear. The bit of the axe was buried in the skull. The patient lost over two tablespoonfuls of brain-substance, yet recovered without paralysis.

Pridanna§ records the case of a man kicked in the forehead by a horse. Fracture of the frontal bone and loss of considerable brain-substance through the opening made. No palsy.

The case of a boy, aged 17, is recorded by Cheney.‖ Shot entered outer edge of superciliary ridge, and passed backwards towards the sagittal suture, carrying with it about one tablespoonful of brain-substance. The patient recovered without paralysis.

Snyder¶ reports the case of a boy, aged 18, who was thrown by a horse head-foremost on rocks. Fracture of the skull at the middle portion of the temporal arch between the parietal protuberance and frontal suture resulted. About a tablespoonful of the middle lobe of the brain was removed. The patient recovered without paralysis.

Cooper** records the case of a boy, aged 12, on whose head a heavy door fell. A large nail, protruding from the door, penetrated the brain through the right parietal eminence. No paralysis. The patient recovered.

Kirkbride†† reports the case of a man, aged 28, who was kicked over the right eye by a horse. No paralysis resulted. The patient died seven days after the accident. Five large pieces of bone were found in the substance of the cerebrum. The anterior and part of the middle cerebral lobes were completely disintegrated on the right side.

Bell‡‡ reports a case of atrophy of one-half of the cerebrum, without paralysis.

Lacroix§§ observed complete congenital absence of the anterior lobes of the cerebrum in a person who never was paralyzed.

Cruveilhier‖‖ records a case of fungus of the dura mater, which destroyed both anterior cerebral lobes, without producing paralysis.

* This may sound strange at first, when the experiments of Hitzig and Ferrier are thought of. The results obtained by these and other investigators can be explained (vide paper by author in Amer. Jour. of Med. Sci., Oct. 1877) by the fact that fibres, or "centres," concerned in the tactile sense are situated in the portion of the hemispheres where the motor "centres" are said to be.

† Amer. Jour. of Med. Sci., 1858, vol. ii. p. 15.

‡ Amer. Jour. of Med. Sci., 1869, vol. i. p. 371.

§ Gaz. des Hôpitaux, Jan. 1867.

‖ Amer. Jour. of Med. Sci., January, 1867, p. 146.

¶ Ibid., January, 1867, p. 270.

** London Med. Gaz., May, 1839.

†† Amer. Jour. of Med. Sci., November, 1839.

‡‡ Rev. Méd., Juin, 1831.

§§ Ibid., Mai, 1830. ‖‖ Ibid., Mai, 1830.

Bodey* records a case in which the left cerebral lobe was reduced to half its normal size, and yet no paralysis occurred.

Maunsell† reports a case of extensive destruction of both hemispheres, from which the patient recovered without paralysis.

Griswold.‡ Boy, aged 2 years. Fell down stairs, on to the pointed extremity of a chair, which passed one and a half inches into the skull, entering the temporal bone just above the tragus. Force was necessary to separate the chair from the skull. The substance of the brain was much broken up, some portions adhering to the chair and others still protruding. A large quantity of brain-substance sloughed away, but the child recovered without paralysis.

Beyer§ reports the case of a child in whom the whole (?) brain was destroyed *in utero*. After its birth the child cried and moved its limbs.

Phenomena similar to those observed by the last-mentioned author have been observed by numerous other authors in acephalous children.

Robertson.‖ First case. Injury inflicted with a two-pound weight on the left side of the frontal bone. Many of the fragments of bone were driven deep into the substance of the brain. These were removed, and the patient recovered without paralysis.

Second case. An old negress was struck over the left eye with a triangular piece of timber, held by a negro in both hands. The wood was literally driven into the brain, carrying with it fifteen or twenty fragments of fractured bone. A considerable amount of brain-substance was lost. In less than one week the patient walked out. Ten years later no paralysis had appeared.

Abercrombie¶ relates a case in which he found a hydatid, three inches long and two broad, in the substance of the right hemispheres. During life no symptoms of hemiplegia had been observed.

Trull** relates the case of a boy, aged 15. A conical musket-ball entered the skull near the right parietal eminence. No paralysis was produced. The patient died in three days. At the autopsy the bullet was found in the left lobe of the cerebrum, near the "island of Reil." A considerable portion of the cerebral substance was displaced.

Hutchinson†† reports the case of a girl, aged 7 years. A buckshot passed through the posterior lobes, rebounded, and lodged in the brain-substance. No paralysis was produced. The child died six months later, of scarlatina.

Cases of this kind could be multiplied indefinitely, but I will, for the present, finish the list with the account of two remarkable instances of brain-injury which failed to produce paralysis.

The first of these cases was reported by Harlow.‡‡ A man, aged 25 years, was charging a hole, preparatory to blasting, when the powder exploded, driving the tamping-iron against the left side of his face, immediately anterior to the angle of the inferior maxillary bone. Taking a direction upwards and backwards, it entered the cranium, passed through the left anterior lobe of the cerebrum, and made its exit in the median line, at the junction of the coronal and sagittal sutures, lacerating the longitudinal sinus, fracturing the parietal and frontal bones extensively, breaking up considerable portions of the brain. The tamping-iron was round and smooth, three feet seven inches long, one and one-quarter inches thick, and weighed thirteen and three-quarter pounds. The patient was thrown upon his back, and gave a few convulsive movements of the extremities, but spoke in a few minutes. He then rode three-fourths of a mile on an ox-cart, sitting erect, and then got out of the cart himself, and with a little assistance walked up a long flight of stairs. Considerable portions of the brain were removed. The accident occurred on October 13, and the patient was out walking early in November, showing no signs of paralysis. He died many years later.

Folson§§ has reported a still more interesting case. A man, æt. 40, on the 18th of August, 1864, was wounded in the head by a circular saw. The wound extended from half an inch above the nose to a little to the left and below the occipital protuberance, passing through the superior edge of the parietal bone. The membranes as well as the substance of the

* Rev. Méd., Mai, 1830.
† Edinb. Med.-Chir. Jour., January, 1830.
‡ Amer. Jour. of Med. Sci., May, 1837.
§ Hecker's Jour., 1833.
‖ North Amer. Med. and Surg. Jour., vol. ix. p. 433.
¶ On the Brain, Philadelphia, 1831.
** Amer. Jour. of Med. Sci., vol. xlix. p. 553.

†† Buffalo Med. and Surg. Jour., January, 1866.
‡‡ Ibid., December 13, 1848.
§§ Pacific Med. and Surg. Jour., May, 1869.

brain were divided. The wound extended three inches into the skull-cavity, and must have reached nearly, if not quite, to the base of the brain. The patient was dismissed recovered at the end of three weeks. No mental or physical derangement had occurred up to the time of Dr. Folson's record of the case. The saw which caused the injury was one-eighth of an inch thick, eighteen inches in diameter, and cut with a speed of about two thousand revolutions per minute.

In each of the last two cases at least one side of the brain was placed out of function by the injury, and yet no paralysis occurred. The last case is an exceedingly remarkable one, as it shows (what I have confirmed in animals) that a complete longitudinal hemisection of the brain occurring in man is not necessarily followed by any loss of motion.

From the above-given instances it seems justifiable to conclude that cerebral hemiplegia cannot be due to a destruction of excito-motor "centres," or of fibres proceeding from these to the motion-producing mechanisms in the spinal cord.

Why, then, does a tumor, or a hemorrhage, in the vicinity of the corpus striatum, so frequently produce hemiplegia? Is it due to pressure on distant portions of the nervous system?

Physiological reasons for not believing this latter to be the cause.—An injection of water, or of some other inert substance, into any portion of the brains of animals, never, in my experiments, produced paralysis of motion. As water thus injected must certainly exert as much pressure on distant portions of the nervous system as tumors or hemorrhages in the same part of the brain, it must be concluded that pressure of this kind will not produce hemiplegia in animals.

Pathological reasons.—Hydrocephalus certainly produces great pressure on distant portions of the nervous system, yet very often it fails to produce paralysis. Again, it is well known that a large tumor may exist in the neighborhood of the great ganglia, and yet produce no symptoms. In other cases a small hemorrhage into the same place will produce hemiplegia. Hemiplegia can certainly not be due to pressure.

Is Brown-Séquard's theory, then, true, that central paralysis is the result of an irritation? An irritation, if the term still means what it did in the time of Haller, can never produce paralysis.* It must always stimulate or excite the function of an organ, but it never can destroy this function. The fact that an irritation applied to the skin may reflexly inhibit certain actions, certainly does not prove that the "irritability" of the portion of the nervous system whose action is inhibited is increased. On the contrary, it shows that the "nerve-force," which would have discharged itself through this channel but for the irritant applied to the skin, has not done so. This inhibition must result from what is usually known as a "depressant action."

Direct irritation of nerve-fibres must produce movements or sensations of some kind, yet following brain-lesions in which fibres are involved paralysis often occurs. If the same lesion, occurring in the same portion of the brain, always produced paralysis, it might still be contended that this symptom was due to irritation; but the same lesion of the great ganglia will in one patient produce hemiplegia, in another convulsions, and in a third no symptom whatsoever. For these reasons I do not believe irritation to be the cause of hemiplegia.

If cerebral hemiplegia is due to none of the above-mentioned causes, how, then, are we to account for its production?

In September, 1876, I commenced to study the effect of irritation of a polarized nerve. Previously, Nobili,† Matteucci,‡ Valentin§, and Eckhard,‖ had shown that the muscular contractions produced by irritating a motor nerve could be prevented by passing through a portion of the nerve, either above or below the irritation, a constant or polarizing current. Pflüger,¶ using less powerful currents, determined that the excitability was increased by the polarizing current to the side of the kalhode and decreased to the side of the anode.

In my investigations,** it was found that the effect of the irritation of a polarized nerve, as compared with that of a nerve not polarized, depends largely on the proportion which exists between the strengths

* The term irritability, when used in physiology, means the power possessed by living organized beings (or structures) to move responsive to stimulation. By irritation is meant the production of an excess of vital movement in a tissue or organ.

† Annales de Chimie et de Phys., Mai, 1850.

‡ Essai.

§ Lehrb. d. Phys, Bd. 11.

‖ Beiträge z. Anat. u. Phys., Hft. 1, 1855, etc.

¶ Physiol. d. Electrotonus, 1859, etc.

** Arch. des Sciences phys. et natur., Fév. 1877.

of the two currents. When an irritating current, sufficiently strong to produce tetanus, was used, I was enabled to prevent all contractions from occurring in the tetanized limb by applying to the nerve a polarizing current of a certain strength. If now an irritating current, just sufficient to produce slight muscular contraction, was employed, according to the strength of the polarizing current would the contractions produced by the former current be increased, prevented, or not affected. In the same manner, varying the strength of the irritating current will influence the effect of the polarization.

May these results not be of service in explaining the hemiplegia and other symptoms following hemorrhage or tumor in the brain? The irritation would here be the excito-motor impulse. It is well known that when we increase the strength or intensity of this impulse by exciting a hemiplegic person, he will often voluntarily move the palsied limbs, but if the excitement is now removed the hemiplegia will again be apparent. Varying the strength of the irritation (*i.e.*, the excito-motor impulse) under these circumstances, determines whether, for the time being, the patient is hemiplegic or not. The polarizing influence is produced by the hemorrhage or other lesion setting up a constant current in the brain-fibres.

Does the blood in apoplexy act as a polarizing agent? In some experiments on the peripheral motor nerves I found that coagulating blood would replace a polarizing current in its effects on the irritability of the nerves. In other experiments, blood taken from the jugular vein of one animal was injected into the brain, in the vicinity of the corpus striatum of one side, of another. Very frequently hemiplegia of the opposite side of the body was produced. Sometimes, instead of being palsied, the animal was convulsed; and in still other instances no effect was produced.

Ammonia is another polarizing agent which, injected in very small quantities in the neighborhood of a corpus striatum, will frequently produce hemiplegia. The glucoside saponin acts in the same manner.

The above I believe to be the first mention of true hemiplegia ever having been produced in mammals below man. In repeating these experiments it seems advisable to use as old animals as can be obtained, as all my experiments in which hemiplegia occurred were made on old dogs and cats. The action of ammonia seems to be the most marked of any agent which I have thus far employed in producing the symptoms in animals which are produced by hemorrhage in the brain in the human subject.

The facts above given certainly seem to indicate that *cerebral hemiplegia is due, not to destruction of brain-substance, nor to irritation or pressure, but to polarization.*

NOTES ON A CASE OF STRABISMUS —TREATMENT, WITH REMARKS.

BY WILLIAM S. LITTLE, A.M., M.D.,
Chief of Eye Clinic, Jefferson Medical College Hospital.

AUGUST 13, 1877, Miss B., æt. 13, came under observation for the relief of a divergent squint of the left eye, giving the following history:

The left eye had been operated on for a convergent squint when she was three and a half years old, it having existed since a few months after birth.

It was discovered, when five years of age, that vision in the left eye was not good, and since the operation a divergent squint had developed, leaving her eye in its present position.

She held her head to the right side, at an angle of forty-five degrees, giving her a very awkward appearance. She was compelled to do this to get rid of the perception of light or very indistinct image which was produced in the left eye. Having no power over the internal rectus of the left eye, she turned her head to the right, at an angle of forty-five degrees, by this means causing the right eye to turn inward, thus bringing the distinct image of the right eye and the blurred image of the left eye together; it being a source of less irritation to her than holding her head straight and not noticing the object produced by the left eye. By assuming this position, she really had a convergent squint of the right eye.

By partially closing the lids of the left eye, or narrowing the palpebral fissure, the irritation from the blurred image was not so noticeable to her, when the two images were united by this position of her head.

At school she sat sideways at her desk, when writing or studying, and was continually reprimanded for her odd position, which was entirely unavoidable, for either her head or her body had to be at an angle of forty-five degrees to the right from the natural position, to enable her to see to the best advantage. Her appearance was odd, and a great source of annoyance to her.

She complained of headache, also of pain down the back of the neck.

When holding her head straight and fixing with the right eye, the left moved outwards and slightly upwards; when fixing with the left eye, she always assumed her accustomed position, head at an angle of forty-five degrees to the right, squinting inwards with the right eye.

Her vision was found to be:

R. E. $V = \frac{20}{XX}$. Slightly astigmatic.

L. E. $V = \frac{3}{C}$. Could only see one letter at a time in the line; she narrowed the palpebral fissure to do this.

The pupil of the left eye was slightly larger than the right.

A careful examination of the field of vision showed the

Right eye normal.

Left eye contracted to the nasal side; also the upper and lower portion; measuring longest horizontally 25″, longest vertically 18″. This field was taken 2′ from the eye. When drawn, it resembled in shape a shoe, the heel to the nasal side.

With the ophthalmoscope, the

Right eye was normal, beyond slight astigmatism.

Left eye showed disc distorted, elongated, at an angle of 135°; red; vessels twisted; retina appeared normal.

When first seeing the case I feared she might have suffered from a retinitis, her field being so restricted; but the ophthalmoscope relieved this fear.

August 14.—The left eye being atropinized, found with the stenopaic slit $V = \frac{20}{C}$; with +12 cyl. axis 135°, $V = \frac{20}{LXX}$. With this glass on the left eye, and using the right, got for the first time double images distinctly; heretofore only a sense of light in the left eye, she holding her head straight. A prism of 39° base outwards united these images.

The field of vision also increased with this lens, horizontally 37″, vertically 25″.

I applied at this time the faradaic current to the internal rectus of the left eye, to stimulate it, and also over the eyeball, to affect the retina and nerve, for they had been practically idle all her life.

August 15.—Left eye. $V = +12$ cyl. axis 135°, $\frac{20}{XL}$; after battery, $V = \frac{20}{XXX}$.

August 18.—Left eye. $V = +12$ cyl. axis 135° $= \frac{20}{XX}$. Field normal.

Right eye. +60 cyl. axis 135° corrected astigmatism.

The battery was continued every other day to internal rectus of left eye till September 7, when the external rectus of the left eye was divided, having informed the patient from the first that it was necessary. Dr. Jesse Williamson kindly assisted. Gave no ether. Glasses put on and worn continually. Formula same as above.

September 8.—Found double images at 20′, three feet apart; homonymous diplopia; this was due to one or two small fibres of tendon undivided; these I cut; holds head straight.

September 10.—Found single images at 15′ and inward; holds head straight: exercises eyes daily; begins to read with left eye.

November 11.—Sees images single at 40′. No diplopia; no headache, or pain down back of neck; reads well; holds head straight; wears glasses continually.

This case is interesting and instructive, as showing how necessary it is to give a thorough examination in cases of strabismus for the cause of the condition.

It also exhibits how an eye practically worthless on account of optical defects can become useful with the use of a proper lens, making an operation successful, both removing the cosmetic defect and giving the eye its function to perform.

The right lens must be found; a spherical glass is of no avail where a cylinder is required.

Hypermetropic astigmatism, as well as simple hypermetropia, produces a convergent squint; the divergent squint was caused by an over-operation in this case on the internal rectus, and no lens being given at the time to correct the vision, the eye could not work as it should, and it remained divergent. Glasses, of course, could not have been given the child at three and a half years of age: so nothing is gained by operating on children till they know their letters and can understand what is required of them.

The surgeon in this case did his best, for at that time errors of refraction were not treated as now,—especially astigmatism.

The cause of strabismus is now to be found, in the great majority of cases, in the errors of refraction, insufficiency and true paresis of muscles and lesions of transparency being the other causes; where these errors exist, a correction should be found before operating.

The ophthalmoscope will reveal them in early childhood; the defect, being permanent, can be corrected later, when the patient can help the success of the case by carrying out the advice given.

The tendency of persons suffering from astigmatism, especially of a high degree, to narrow the palpebral fissure, makes it a diagnostic symptom of value. One can diagnose the defect by this symptom

alone; a further scientific examination proving its value as a symptom; it existed in this case.

The peculiar restriction of the field, present in this case and simulating an affection of the retina, was gradually relieved after the glass was given and the retina able to receive a distant image, the eye, as well as any other organ of the body, requiring exercise in order to keep it healthy.

Her accommodation was not strong enough to overcome the degree of hypermetropic astigmatism existing; the act of narrowing the palpebral fissure was of some relief to her; but the retina received a distorted image, and a false impression was conducted to the brain. The cylinder given for the eye was a +12 cyl. axis 135°, and it caused a distinct image to fall on the retina. The eye being thus made useful after the operation, it performed its function with the right eye, and will continue to do so.

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THE UNEQUAL LENGTH OF NORMAL LIMBS SHOWN BY MEASUREMENT OF THE BONES.

BY JOHN B. ROBERTS, M.D.

A GOOD deal of attention has been directed recently, both here and abroad, to the fact that the limbs of the two sides are seldom of the same length. The fact that after fractures of the femur it is often impossible, by the most skilful treatment, to make the legs of the opposite sides measure the same, probably first called forth an investigation of the subject.

A large number of observations have been made by Cox and Wight, and it has been found that the two limbs, neither of which has ever sustained fracture, often differ as much as half an inch in length. These results have not been credited by some; but as the importance of the subject is readily seen it is evident that, if true, every one should be cognizant of this frequent want of symmetry in the length of the two legs. As far as I know, all the measurements reported have been obtained by experimenting on living persons who have never received any fracture of either limb. It is well known that there is great difficulty in making accurate determinations on the living subject, because of the liability of not getting the tape at exactly the same point on the two sides, owing to the bony projections being covered with the soft parts, and because the limbs may not be perfectly parallel at the time of measurement. On account of this uncertainty it occurred to me that we could best settle the question by taking the bony skeleton itself.

I therefore have made accurate measurements of the femurs and tibias of eight skeletons, in the museum of the Jefferson College and elsewhere, in the following manner. I took an ordinary graduated yard-stick, and had a piece of iron fixed to one end at a right angle, while up and down the stick there played a slide with a similar piece of iron also at a right angle. This was employed just as a shoemaker uses his rule to obtain the length of the customer's foot. While measuring, I always kept the graduated side of the rule away from me, in order that I might not be involuntarily prejudiced by seeing the marks written on it. I measured the femurs from the top of the head to the prominent part of the lower surface of the internal condyle; and the tibias from the articular surface of the inner tuberosity to the lower edge of the inner malleolus. Care was taken that there was no evidence of fracture having ever occurred in either leg; and the appearances of the opposite bones were noted to see if there was any discrepancy which would lead me to believe that the bones had originally belonged to different subjects. Of course the evidence would have been more positive if I could have measured the limbs before death, and then have cleaned the bones and measured again. The existence of degrees of difference less than about one-sixteenth of an inch was not considered of sufficient clinical importance to be determined.

I give an epitome of the results; showing on which side the bone was longer, and to what extent, also how much longer the corresponding leg would be if the cartilages and ligaments were the same on both sides.

I.	Femur,	R. $\frac{1}{16}$ in.	Tibia,	R. $\frac{1}{16}$ in.	Leg,	R. $\frac{2}{16}$ in.
II.	"	R. $\frac{2}{16}$ "	"	0 "	"	R. $\frac{1}{16}$ "
III.	"	L. $\frac{7}{16}$ "	"	L. $\frac{5}{16}$ "	"	L. $\frac{12}{16}$ "
IV.	"	L. $\frac{6}{16}$ "	"	0 "	"	L. $\frac{6}{16}$ "
V.	"	R. $\frac{1}{16}$ "	"	R. $\frac{2}{16}$ "	"	R. $\frac{1}{16}$ "
VI.	"	R. $\frac{1}{16}$ "	"	one malleolus broken.	"	?
VII.	"	L. $\frac{2}{16}$ "	"	L. $\frac{2}{16}$ in.	"	L. $\frac{4}{16}$ "
VIII.	"	L. $\frac{1}{16}$ "	"	L. $\frac{7}{16}$ " *	"	L. $\frac{11}{16}$ "

* [The appearance of the tibias made me not certain that they had belonged to the same individual, though the femurs were evidently both taken from the same subject.]

These figures show conclusively to my mind the folly of endeavoring to make the limbs of equal length after one of them has sustained fracture; it may be possible if the patient happens to break the long leg, but what will be the result if he have this accident occur to the one already half an inch shorter than its fellow? Is the surgeon to continue his extension until both legs reach the same mark on his graduated tape? Especially is this to be deprecated when we recollect the probability of his measurements differing every day on account of the difficulty of applying the tape to exactly the same spot on each side.

It has been proposed that, instead of using the anterior superior spine of the ilium as a starting-point in these measurements, we should start from the top of the great trochanter and determine the length of the outer aspect of the limb. This would not be of service in fractures of the neck of the femur; and in addition it would be fallacious, for I found that measurements from the highest point of the trochanter to the outer condyle did not show the same difference as when the measurement was made from the head to the inner condyle, which is, of course, the true anatomical length of the bone. Sometimes, indeed, the right femur was longer when measured from the head, while the left showed greater length when the trochanter was used as a starting-point. This is understood when we recollect that the trochanter may have a prominence much more developed on one side than on the other, owing to ossification extending along an inserted tendon.

These results are, therefore, corroborative of the living cases measured by the gentlemen mentioned above, who selected individuals of known history for their observations, and found the same want of symmetry on the two sides. The fact has been doubted by so many that the subject should receive the consideration of all practical surgeons, since its bearing in medico-legal cases is very patent.

CLAUDE BERNARD'S SUCCESSOR.—The College of France held a meeting, May 28, for the presentation of candidates for the place left vacant by the death of Claude Bernard. On balloting it was found that M. Brown-Séquard received twenty-five of the twenty-eight votes. M. Davaien was the only competitor voted upon.—*La France Médicale*, June 1, 1878.

TRANSLATIONS.

ON THE ANALGESIA OBTAINED BY THE COMBINED ACTION OF MORPHIA AND CHLOROFORM. — M. Guibert (*Jour. des Sci. Méd.*, 1878, p. 254; from *L'Abeille Méd.*) says that by the use of these anæsthetics combined, the surgeon avoids that violent depression of the nervous forces and cerebral anæmia of the period of complete anæsthesia, the syncope occurring in the course of which, particularly where there has been violent excitation, is so often mortal. According to Mallow, morphia, in obtunding the sensibility of the respiratory mucous membrane during the first inhalations of chloroform, checks at the point of origin those reflex actions which prove so dangerous to the respiratory and vaso-motor centres. Contrary to what occurs in chloroformic excitation with hyperæsthesia, there is nothing to fear, with the analgesia of the combined action, from intense reflex action on the heart, due to the traumatism. The cause of syncope, when an operation is performed during excitation, upon which M. Perrin lays stress, is thus suppressed. X.

GENERAL PATHOLOGY OF SYPHILIS.—M. Cornil, the well-known histologist and pathologist, has begun a course of lectures on this subject at the Lourcine Hospital in Paris. An abstract of the first lecture is given in *Le Progrès Méd.*, May 25. M. Cornil, having defined syphilis and having shown it to be a virulent disease, traces out its relations with glanders and tuberculosis, with which he believes it to possess certain affinities. He then passes to the conditions of contagion of syphilis, and speaks of the theories of unity and duality. M. Cornil insists upon the anatomico-pathological difference between the "soft" and "hard" chancre. That which distinguishes the two sores most markedly, however, is the fact that the "soft" chancre appears directly after contagion, while the infecting chancre only shows itself after a longer or shorter period of incubation, usually ten to twenty-five days, but sometimes as long as two months. Contrary to the opinion of former times, it is now universally known that not only is the primary sore inoculable, but that any of the secretions of the "secondary" stage, serum, pus, blood, etc., may transmit the disease. Certain authors, as Fournier, maintain the existence of syphilis in the system from the moment of

inoculation and during the period of incubation, the chancre being merely the first outbreak of a disease which has been latent from the moment it came in contact with the surface. Cusco has even asserted that a person could become syphilitic by absorption of pus, without the appearance of a chancre being necessary. Renaut inoculated an animal with glanders; one hour later he removed the bit of contaminated skin, notwithstanding which the animal had glanders. On the other hand, Cohnheim placed a morsel of tuberculous matter in the anterior chamber of the eye of a rabbit, and it was only after eight days that the specific inflammation began to appear. So that analogy fails to support either the view of immediate contamination or that of incubation. M. Cornil remarked later upon the recent researches of Auspitz and Urma, where the excision of indurated chancres frequently resulted in non-appearance of secondary lesions. For himself, Cornil leans to the view that syphilis does not immediately become generalized, but spreads gradually from the initial lesion. x.

PHYSIOLOGICAL AND THERAPEUTIC EFFECTS OF THYMOL.—Dr. Baltz (*Archiv der Heilk.*, Bd. xv., 3. und 4. Heft) gives the results of comparative experiments made with thymol and salicylic acid. These are as follows. It was necessary to give twenty-five to thirty grains a day in order to produce any appreciable therapeutic result. If the medicine came in contact with the mucous membrane of the mouth, it gave rise to an acrid sensation. Taken internally it sometimes produced nausea, and in increased doses a momentary sensation of heat in the epigastrium, and sometimes slight diarrhœa. Hypodermic injections of thymol usually caused, within half an hour, more or less circumscribed and abundant perspiration, always less, however, than that produced by salicylic acid or jaborandi. Sometimes an increased secretion of greenish-brown urine was observed. Nervous phenomena were sometimes noted, such as tinnitus aurium, deafness, constriction of the temples. In one case of typhoid fever a dose of forty-five grains produced violent delirium lasting some hours, but ceasing as the temperature fell. In another case of typhoid fever the patient lost consciousness, and then passed into a state of delirium followed by collapse which lasted some hours. In typhoid fever and articular rheumatism, and often in phthisis, a dose of thirty to forty-five grains lowered the temperature 3° to 5° F., but often this lowering of temperature went on further than was intended, and the patient sank into collapse. To avoid this accident, thymol should be given in broken doses, four grains every hour, which would amount to about a drachm and a half in twenty-four hours. Thymol diminishes the frequency of the pulse, but not in proportion to the lowering of the temperature. Hypodermic injections of thymol do not act favorably. Baltz concludes that thymol is without doubt an antipyretic, but uncertain in its action, and not equal either to salicylic acid or salicylate of sodium. x.

COMPRESSION OF THE EPIGASTRIUM IN HICCOUGH.—Dr. Favier (*La France Méd.*, 1878, p. 276; from *Jour. de Méd.*) had treated a patient suffering from hiccough with blisters covered with morphia, moxas to the epigastrium, injections of morphia, ether, bromide of potassium, chloral, etc., without avail, when it occurred to him to compress the patient's epigastrium firmly with the aid of an abdominal tourniquet. In five minutes the hiccough, which had lasted fifteen days, ceased completely. When the compression was suspended, the hiccough at first returned, but shortly disappeared permanently. x.

PARENCHYMATOUS INJECTIONS OF ACETIC ACID IN CARCINOMA.—Th. Gies (*Cbl. f. Chirurgie*, 1878, No. 19; from *Deutsche Zeitschr. f. Chirurgie*) injected hypodermically a solution of dilute acetic acid (1 part acid. acet. glacial. to 3 parts water) into a relapsed carcinoma, the size of a hen's egg, situated on the edge of the lower jaw. It suppurated, and finally became reduced to the size of a hazel-nut. In the same patient a similar carcinoma, the size of a hen's egg, situated behind the ear, suppurated, finally, after twenty-five similar injections, and at the end of twenty-one days had almost entirely disappeared. In the case of a woman who had a carcinoma of the same dimensions in the left mammary gland, ten injections sufficed to bring about suppuration, and in the course of a month the tumor had shrunk to the size of a hazel-nut. (The treatment seems worth a further trial, but the value of the above cases would have been more than doubled if the after-history had been followed out. What became of the hazel-nut-sized mass left behind?—that is the question.—TRANS.) x.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, AUGUST 3, 1878.

EDITORIAL.

INTERNATIONAL COPYRIGHT.

THE British Royal Commission on Copyright has made a report which, although not absolutely unanimous, is in its main points supported by a very large majority of the commissioners. The commissioners appear to believe that copyright is not a natural, but merely a statutory, right of the author. We cannot see why the results of labor are not, in accordance with the fundamental axiom of modern civilization, the reward of the laborer, whether such results take the form of brick and mortar or of written ideas. The right of the author seems to us plainly a natural one, founded upon the first acknowledged principles of justice. The lack of an international copyright law works, therefore, a gross injustice to the individual author, as well as an injury to this rising nation by discouraging literary and scientific effort. It has fostered a class of publishers who may well be compared to the mediæval baron scanning with eager eye the valley over which the rich caravans of commerce pass: with a gaze as intent as his, they watch, not the devotees of trade, but the authors of England, hoping to snatch from them whatever their toil may obtain or produce. It is a curious instance of the decisive effect of self-interest and custom upon morals that men in other transactions the most scrupulously honest see no impropriety in this "piracy," or at most are able to quiet conscience by offering as a gratuity a tithe of that which honestly belongs to the laborer.

English authors consider that they are the chief sufferers; but in applied science, at least, the blows fall as heavily upon the American writer.

Dr. Smith, in England, produces a work on fever, as does also Dr. Jones in America. These treatises are, we will suppose, of equal merit. From his publisher Dr. Jones receives a copyright of a dollar a volume, which is of course added to the price of the book. But Dr. Smith's work is put upon the market by a rival house, burdened by no copyright. Consequently, Dr. Jones has either to see his book replaced by underselling or to forego the reward of, it may be, his many years of labor.

Any acknowledgment of this gross injustice of our copyright relations, any growth of public opinion towards calling the practices of publishers by the expressive name descended to us from the mediæval French,—robbery,—should be looked upon with pleasure. Much more satisfactory is the proposal of the British commission to apply a remedy, partial though it be. This is the according to all foreigners publishing books in the British dominions the same rights as British subjects, on condition that the books be first published on British soil.

This remedy, unfortunately, does not reach the case of the American medical author, but it is probably the best that lay in the power of the commissioners. It will greatly benefit the purely literary author, and by its public assertion of a right will aid in fostering that public opinion which sooner or later will see justice done, even to the man who writes medical books in the United States.

TREATMENT OF FAVUS.—Sawicki uses a paste of pulverized chalk or gypsum containing from five to ten per cent. of carbolic acid. This is applied all over the head after cutting the hair short. On the third day the dressing is removed, the head washed with soft soap and water, and the paste re-applied. A little oil may be added to render the dressing more pliable. It is said to effect a cure after three or four applications.

CORRESPONDENCE.

To the Editor of the Phila. Medical Times:

DEAR SIR,—Several articles have appeared in the *Times* on different occasions, in regard to the abuse of the medical dispensaries in various parts of the city; and to give you some idea of the manner in which it affects many of the physicians in this city, I will give you a few facts from my own experience; and in conversation with quite a large number of medical men in the lower part of the city, they agree with me that their experience is the same.

I will cite a few cases, for the purpose of showing the financial standing of some of the patients who avail themselves of the free dispensaries. I met a gentleman in the cars, the other day, and he was congratulating himself that he had no doctor's bill to pay this year. I asked him to explain. He said, "What is the use of paying a doctor a fee, when I can go over to the University Hospital and get all the advice I want without paying for it?" Now, I know that this man is the owner of the house he lives in (and it is a nice one, by the way), and is in the grocery business, and doing very well, and a short time since made alterations to his house which could not have cost less than five hundred dollars. Another man (whose family I had attended on one or two occasions) fell and fractured one of his clavicles. He called at my office to have it treated, but I was out. He was told that I would return in a few minutes. He replied, "Never mind: I will just go up to the Pennsylvania Hospital and have it attended to;" and he did. Some time after that he was unfortunate enough to fracture his radius, just above the wrist, and he went to the same place to have it treated, This man also owns considerable real estate, and has a paying business besides, and is perfectly able to pay for the services of a physician. I could go on and cite you a number of just such cases, but I will not take up your time. But it only goes to show that the different benevolent institutions are being made use of in an improper manner by persons who are able to pay for advice. In conversation with a physician of ten or twelve years' practice in the lower part of the city, and whom, if I should mention his name, you would know well, he said, "I used to do a considerable amount of minor surgery, but now it is rare that I have a fracture to treat, as they go up to the Pennsylvania Hospital and get it attended to; and by going up there daily, or as often as necessary, they in that way avoid calling on a physician; and as for diseases of the eye, the many dispensaries for that class of affections in the different hospitals and other places monopolize them all." I believe that two-thirds of all the people that visit the free dispensaries in this city are able to pay something. I know that from my own observation, as an assistant in one of the hospitals; and to give some idea of the extent to which patients go to these places, I may state that some days we would prescribe for fifty to sixty patients, and that only in the medical department; and when we take into consideration the surgical, eye, skin, nervous, and all the other departments, an approximate estimate can be made of the great number of patients that visit that place; and then add to this all the other hospitals and dispensaries, and we will have a very large number. I contend that the careless manner in which patients are received at these places is all wrong,—wrong to the benevolent people who furnish the means for carrying on the work; wrong to the worthy poor who are unable to pay; and wrong in depriving those who are really deserving from receiving benefits. But we are told that the colleges require material for lecturing purposes. I grant that; but we know that hundreds go there who are of no practical use and should be stricken from the list of patients. I think this subject demands the attention of the regular practitioners in this city, and on that account I have written at considerable length, for, knowing that the *Times* has great influence among its numerous subscribers, I thought perhaps they might be induced to propose a remedy, by the subject being introduced by the editor.

I did not intend this for publication, as it has been written in a great hurry, but you can do what you like with it. W. C. S.

Philadelphia, July 18, 1878.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

Thursday Evening, April 11, 1878.

Vice-President, Dr. Harrison Allen, in the chair.

Mastoid disease—Trephining—Death—Clot in the lateral sinus. Presented by Dr. H. S. Schell, for Dr. William W. Keen.

JOSEPH JUDDY, æt. 17, admitted to St. Mary's Hospital December 9, 1875. When æt. 3, had the measles, and has had discharge from both ears, off and on, ever since. Four weeks ago had fever, and ear has been discharging freely. An incision had been made soon after over left mastoid process, opening an abscess. Has had some symptoms of meningitis.

December 10.—Had a rigor lasting an hour.

December 11.—*Condition.*—Is totally deaf in left ear, and moderately so in right. Is pale, trembling, sweating. Tongue clear. Left pupil a little larger than right, and reacts

to light. A blindness often seizes him on attempting to rise. Pulse 132. Intelligence good, but a little confused. Memory poor. On inserting a probe, dead bone is found on mastoid process, and the probe glides over its surface anteriorly into the external meatus, and also passes up into the squamous portion, one inch above and in front of the auricle, dead bone being felt all the way.

December 12.— *Operation.*— With Drs. Schell and Burnett in consultation, I made an incision back of the auricle, on the anterior edge of the mastoid, the other incision being too far posterior, and, with A. H. Buck's conical trephine, opened the mastoid, the walls of which were as yet intact. The opening was then enlarged with a small bit, and about a drachm of thick, cheesy pus evacuated. No loose bone was found. A tent was inserted, a poultice applied, and the wound ordered to be syringed daily with a solution of gr. ij chloral to f℥j of warm water.

December 14.— Had a rigor of half an hour's duration. Left ear is one and a half inches lower than right. No protrusion of eyeballs; no œdema of lids. Discharge more copious, and better.

December 15.—Appetite good; general appearance good; pulse 94. Neck feels stiff, and complains of trapezius and all the back of the neck. Coughing is painful. Ordered tonics and nutritious diet.

December 22.—Has had four rigors within a week, sometimes accompanied with vomiting. Has violent night-sweats. General appearance very bad; face flushed; great and constant headaches. On examination, his eye-ground showed distinct "choked discs," the borders of the papillæ being scarcely at all defined, and its surface almost as red as the retina.

December 23.—Deeming it probable that pus was forming on the inner surface of the necrosed squamous portion of the temporal bone, separating the dura mater from the bone, I called a consultation to decide the question of trephining this portion of the bone. If an opening already existed at the tegmen tympani, no harm would be done by a small and carefully-made opening, and if no previous one existed, and there was pus present, as every indication seemed to show, an opening here at the most likely spot would evacuate it, or, if the pus were over the petrous portion, would open "a path of least resistance," which would be followed by the pus if it was external to the dura mater. If in the brain, no further harm would be done, and the indications might be such as to enable us to relieve the patient by its possible evacuation. After a consultation it was deemed wise to make an exploratory operation.

Having etherized the patient, I made an incision from the old cut over the mastoid, horizontally, just above the ear, down to the bone, and as far forward as the middle third of the zygoma.

Two branches of the temporal were ligated, the necrosed bone was cleared of the overlying soft parts, the ear pulled down, and thus the root of the zygoma exposed. Directly above this, and on a line with the external auditory meatus, I applied a conical-pointed trephine, and carefully cut through the thin and softened bone. This spot would admit me to the inner surface of the dead bone, and also would avoid in all probability the posterior branch of the middle meningeal.

Having penetrated the bone by an opening about the eighth of an inch in size, I saw the dura mater exposed. With great care I enlarged this by a drill to about one-quarter of an inch in size. The bone was not brittle, but fibrous, soft, and pliable. A small bubble of air escaped from the opening the moment the trephine was withdrawn, but it may have entered from the exterior. No pus at all escaped. With a bent probe I explored the interior, carefully hugging the internal surface of the bone and applying almost no force. The dura mater was detached all around the opening, and downwards and forwards; the probe easily entered for more than one inch, but no pus escaped. The dura mater was not inflamed, and it did not bulge out, as if pus existed in the interior of the brain; so I did not open it. Having thus established an opening, it was deemed imprudent to proceed further, and the soft parts were partially closed by four stitches, leaving the posterior inferior portion largely open for discharges, and a tent of silk was inserted. He reacted well, and expressed himself as feeling comfortable.

December 24.—Doing excellently. Slept well. Pulse 64, soft and good. Eye-ground as before. Wound looking well, and fearing lest the tent would irritate the dura mater, it was removed. Had a rigor of only half an hour's duration.

December 25.—Wound discharging slightly. Discharge of pus from the old one as before. Slept moderately well. Slight chill this morning, which was apparently cut short by a hypodermic of one-quarter grain of morphia. Head clearer; quite cheerful, and feels better than before the operation. Pulse 70. Ordered quinine.

December 26.— Another slight chill this morning; checked by morphia. Slept only fairly. Mental condition good, but does not seem so well. Appetite poor. No vomiting. Has some headache. Pulse 80. Wound looking well, and discharging as before.

December 28.—Considerable fever. General condition as before. Chills each day. Pulse 120.

January 3, 1876.—Chills daily. Fever at irregular hours. Night-sweats, for which atropia was ordered. Appetite poor. The wound has discharged one or two ounces of fetid pus

to-day, by the opening in the mastoid. The rest of the wound is healthy. Pus discharged from among the muscles of the neck, below the mastoid process.

January 12.—Gradually he sank, exhausted, and died to-day. His mental condition was excellent up to within an hour of his death. Eye-ground as before. No paralysis; no squint; no priapism.

January 13.—*Post-mortem*, twenty-two hours after death. Rigor mortis well marked. Great emaciation. The head only could be examined. The calvarium being removed, the dura mater was not found inflamed over the hemispheres. The cerebellum, at a point corresponding to an opening from the left mastoid, described hereafter, was disintegrated over a surface three-quarters of an inch in diameter, and its borders firmly adherent to the dura mater and the bone. The softening extended about a quarter of an inch into the cerebellar substance, and was pretty sharply defined. A similar point of softening existed on the upper and posterior surface of the cerebellum, beginning at the torcular Herophili, and extending one inch to the left, corresponding to the inferior curved surface of the left lateral sinus. This extended about half an inch into the brain-substance. Save these two points, the brain was absolutely normal. The dura mater at the point where I had trephined was adherent to the scalp, and was not altered in any way. The cerebral arachnoid, at the same spot, showed a barely visible white color over a spot about one-third of an inch in diameter. The cerebral substance was not inflamed. The entire left lateral sinus was plugged up by a suppurating gangrenous thrombus, which extended up to the torcular Herophili, but not to the right of it. The left petrosal sinus was also filled by a thrombus, which was not adherent; was discolorized, but not softened, and only partly filled the sinus. The left inferior petrosal sinus and the jugular vein were not plugged up. The right sinuses were all free. The opening made in the mastoid extended into the cells, and on the inner surface of the groove for the lateral sinus was found a corresponding opening, extending directly into the lateral sinus. Two openings existed in the cerebellar surfaces of the sinus in direct contact with the disintegrated brain-substance, so that a probe could have been pushed from the exterior directly through the mastoid and the sinus into the cerebellum itself.

Below the mastoid, and in the muscles and connective tissue of the neck, was a suppurating sinus. Unfortunately, the examination could not be extended to the heart and lungs. Owing to the excessive cold, I forgot to remove the posterior halves of the eyeballs to examine the discs. The optic nerves were not œdematous, nor inflamed, so far as removed with the brain.

Tympanic cavity.—The tegmen was opened; pus found in the tympanum; ossicles were present and *in situ;* manubrium eroded; membrana tympani gone; tensor tympani normal; the entire chain drawn inwards, in consequence of the destruction of the membrana tympani.

Dr. SHAFFNER said disease of the mastoid cells was not an unfrequent occurrence in children, especially as a sequel to scarlet fever and measles, and that it usually terminated in recovery, even when very severe, and producing considerable destruction of bone, which is shown by the deep scars carried through life. He thought it strange that disease of structures in such close proximity to the brain does not more frequently develop inflammation of the brain during childhood, while in the adult the same condition produces such serious disease so often.

Dr. BURNETT said he remembered that while attending Professor Gruber's clinic in Vienna, the fact of children being less liable to brain disease than adults, from disease of the mastoid cells, was alluded to by the professor. The reason given for this is the thinness of the outer mastoid wall in children. When inflammation occurs in the rudimentary mastoid portion of the temporal bone of a child, there is, of course, less resistance outwards towards this thin wall than inwards towards the cerebrum. Very often, when the bone is cribriform, nothing but the integument covers the abscess; and hence the great freedom of young children from fatal mastoid disease.

Foreign body in the tympanum. Presented by Dr. H. S. SCHELL.

An Irishman, 55 years of age, applied at the Eye and Ear Clinic of St. Mary's Hospital for relief, on the 23d of June, 1874. He stated that while lying on the settee, at home, three days before, with his eyes closed, his wife had poured melted lead in his ear. The sudden and intense pain caused him to spring up and shake his head violently, and in this way, he said, the lead ran out of his ear again and splashed on the floor. In confirmation of his story he produced a scrap of paper containing some fragments of lead, which had evidently solidified after falling on a flat surface.

Examination of the right ear showed that the skin of the concha and external auditory meatus was deeply burned. From the depths of the meatus came a copious, flocculent discharge. When this was washed away there was found a barely perceptible rim of the membrana tympani remaining, and beyond it the space was filled with a dark-colored substance of metallic lustre. This substance extended outwards, by two projections, along the anterior and posterior walls of the meatus. A portion of the handle of the malleus could be seen outside of the mass, showing perfectly white against the dark background on which it rested.

The facial nerve on the right side was completely paralyzed, and the patient said he had noticed the distortion of the mouth in two or three minutes after he first felt the pain. The sense of taste was lost in the right side of the tongue, and there was some dryness of the same side of the mouth. He complained of constant vertigo. He had been previously somewhat hard of hearing, but this ear, which had been his "good one," was now quite deaf. The tuning-fork on the vertex or teeth was heard in the left ear only. On the left side, in which he had been very deaf for years, the membrana tympani was entire, sunken, and opaque. The loud voice could be heard close to the auricle. There was no perceptible constitutional disturbance.

From the manner in which the lead lay in the right ear, it looked as if it would be very easy to take hold of one of the projections previously mentioned and pull the whole mass out. Although I used a very strong pair of dressing-forceps, however, and all the force I could apply, the only effect was to tear off fragments and leave the main body of the lead immovably fixed in its position. Syringing was utterly useless.

Seven days later the burned soft parts had sloughed away and left the bony canal of the meatus exposed. The foreign body was now slightly movable in its bed, but could not be extracted. After this I ceased all efforts to remove it, and merely directed that the canal should be kept clean by syringing. On the 14th of July I noticed granulations springing up around the processus brevis of the malleus. On the 21st the manubrium was hidden by the granulations which projected from above. A month later I found the inner end of the meatus crowded with granulations, behind which the lead had disappeared. I removed most of them with the looped forceps, and cauterized their bases with chloro-acetic acid, so as to give free exit to the discharge.

On the 7th of September I found the patient feeble, with a weak pulse, and complaining bitterly of the giddiness. He gradually improved during the next three months under a course of tonics. I did not see him again for two months after this, until February 23, 1875, when he presented himself again at the clinic. The opening of the meatus was now surrounded by cicatricial tissue and contracted to a line in diameter. A point of the lead was visible just inside of the opening. I made two free incisions through the contracted tissues, and then succeeded in extracting the lead in one piece. It weighed 18½ grains. The handle of the malleus is partially imbedded in its outer side. The inner side is a tolerably accurate cast of the inner wall of the tympanum. A projection, about two lines in length, from the anterior side, represents the upper part of the Eustachian tube. Superiorly a small process projects towards the tegmen tympani.

Two months later I found the ear dry. A thin membrane of pearly lustre had replaced the membrana tympani. He could hear a loud voice, close to the ear, but could not distinguish words. Tuning-fork on the teeth not heard on the right side. There was no response of the facial muscles to either the induced or constant current. No improvement in taste, nor in the condition of the mouth as to dryness.

I saw the patient again a month ago. His condition remains the same. It is evident in this case that the heat of the lead must have destroyed the chorda tympani, and disorganized the facial nerve through the thin walls of the Fallopian canal.

Rau refers to a similar case, reported in the *Medicinisch-Chirurgische Zeitung*, No. 39, 1852.

GLEANINGS FROM EXCHANGES.

DILATATION OF THE FEMALE URETHRA.—Mr. Clay, of Queen's Hospital, Birmingham, reports (*The Lancet*, June 8, 1878) the case of a woman, æt. 22, who had suffered from incontinence of urine since her birth. At times it constantly dribbled away from her, at other times she could retain her water for several hours. When the bladder felt full she had little or no power to empty it; she sometimes experienced great pain in passing her water. She was well nourished and healthy, and had never had any illness except rheumatic fever. On April 20, Mr. Clay dilated the urethra with Weiss's female urethral dilator, so that the finger could be passed into the bladder. On the 25th the patient had a little more control over her bladder, but was still unable to retain her water for any length of time. On May 6 she was discharged, much relieved, and on May 20 she came to the hospital and stated that she could retain her water all day and had perfect control of the bladder.

Mr. Barton, of the Adelaide Hospital, Dublin, reports (*The British Medical Journal*, June 8, 1878) the case of a woman, æt. 29, by occupation a nurse, who was admitted into the hospital on February 16, on the suspicion of having a stone in her bladder. She stated that her health had been failing for several months, and that for the last month she had experienced an uncomfortable sensation in the region of the bladder, with a frequent desire to micturate. The symptoms increased, appetite was lost, and fatigue easily induced. At times she had shooting pains across the lower part of the abdomen and down the inner part of the thighs. About a fortnight before her admission to hospital, after some exertion she felt faint, had a severe pain in the hypogastric region, and, after great straining in micturition, passed a considerable quantity of blood, and had to take to bed.

The pain, which was excruciating, was unrelieved by passing urine, which she did every half-hour. The urine was acid in reaction, and contained blood and pus. A mass of enlarged glands was noticed on the left side of the neck. Mr. Barton sounded the bladder for stone, but failed to discover one. Bland injections were made into the bladder, and tonics and anodynes administered, but without effect. Mr. Barton therefore determined to dilate the urethra, which he did by means of Weiss's dilator, by two operations, with an interval of fourteen days; after which the urethra was so expanded as to admit the index finger freely into the bladder. The mucous membrane of this was quite rugous; there was but slight hemorrhage, and the urine trickled away for about twelve hours. She steadily improved after this, and left the hospital on April 6, with complete control over the bladder; all pain was gone, and her appetite was good; the urine was healthy and the glands in the neck much reduced in size. Upon each occasion that the dilator was used the patient was placed under the influence of chloroform. The dilatation occupied nearly a quarter of an hour. It was carried as far on the first occasion as to admit the tip of the index finger into the urethra, but not into the bladder. This was followed by such marked relief that it was hoped no more would be required; but, the symptoms persisting, although in a mitigated degree, the second dilatation was performed, when the index finger was freely passed into the bladder. Incontinence lasted only one day; complete cure followed.

Dr. P. F. Harvey reports (*The Medical Record*, May 18, 1878) the case of a woman, æt. 31, who had been under treatment for some months for right latero-flexion, associated with chronic endometritis, consequent upon subinvolution following abortion in the third month. Three months before coming under observation, acute cystitis suddenly developed, characterized by alarming prostration, intense burning pain in micturition, and the passage of bloody and muco-purulent urine. The acute symptoms having subsided under treatment, the usual means of relief were tried in vain to control the chronic irritability that remained. By chemical and microscopical examination, numerous pus and epithelial cells and some albumen were found at various times in the urine. Otherwise it was normal. Topical and constitutional measures conferred no relief whatever. Nausea and vomiting were frequent and distressing symptoms. Constipation of the most obstinate character had existed for months. The uterine trouble had been undergoing satisfactory improvement previous to the development of the cystitis, but since that occurrence the failure of the patient's strength, and the intense pain caused by the introduction of the speculum, interdicted the application of the remedies adapted to the relief of the former. Her worst symptoms seem to have proceeded from the vesical irritability. Every hour during the night a spirt of urine, amounting to a teaspoonful, would constitute her most serious trouble. Again, there would be retention with great tenesmus and suffering until the pent-up urine was voided through the catheter. The passage of a soft rubber catheter always gave severe pain.

Fully convinced of the inutility of persisting in the ordinary modes of treatment, Dr. Harvey determined upon performing rapid dilatation of the urethra as furnishing the only hope of relief. Accordingly, on February 28, having evacuated the bladder and brought the patient under the influence of ether, he cautiously introduced into the urethra the blades of a narrow pair of sequestrum forceps, and gently dilated the passage until it would admit his little finger. This dilatation was increased to an extent which admitted of the introduction with ease of his thumb or forefinger. Urine ran freely from the bladder during the dilatation, notwithstanding the previous catheterization. The mucous membrane of the bladder communicated to the touch a soft, velvety feel, and seemed perfectly free from disease. The cavity was normal in size; hemorrhage was slight.

After some days of obstinate vomiting, intense ardor urinæ, febrile excitement, etc., retention became partially established, but there was still great tenesmus and suffering as before. On March 26 dilatation was again practised, both indices being introduced, and the urethra and vesical neck stretched to their utmost capacity. Slight pain was experienced subsequently, immediate relief was obtained from the more urgent symptoms, the patient progressed steadily towards recovery, and on April 14 reported herself as entirely relieved.

AN IMPROVEMENT IN THE JAWS OF THE LITHOTRITE (*The Medical Record*, May 18, 1878).—Dr. E. C. Keyes reports an improvement in the jaws of the lithotrite, and summarizes as follows his views on the subject, adding that although the statements are expressions of personal opinion they are also deductions from clinical experience.

1. A typical lithotrite requires no teeth. Its function is to produce fragments, not dust, if it be proposed to wash out the detritus through a tube.

2. Such an instrument needs jaws composed of three bars, one of which must pass through and just beyond the other two,—the latter precaution to insure against clogging.

3. If the male blade be smooth at its edges, and so narrow and short as to play in the female blade at the distance of a millimetre or more from the latter on both sides and above, it becomes practically impossible, with the exercise of reasonable care, to catch the bladder, and the terrors of the old-fashioned

fenestrated instrument, where the male fits tightly into the female blade, cease to exist.

4. The width of a blade does not add to its strength, which lies in the antero-posterior diameter of the heel. In the width of the male blade lies the danger of a fenestrated instrument.

TREATMENT OF CASES OF INTRA-THORACIC PRESSURE (*The Lancet*, June 8, 1878).—Dr. J. Burney Yeo recommends the following general treatment for those troubles arising from intra-thoracic pressure due to enlarged bronchial glands, to malignant or non-malignant growths, to aneurism, or to other causes.

In the first place, it is impossible to overrate the value of simple rest in bed in some of these cases. This is of itself sufficient in many instances to calm the more distressing symptoms; and when it is the large venous trunks that chiefly suffer compression, we place the organs of circulation under the most favorable circumstances for regaining their balance and for establishing a collateral circulation. In nearly all these cases, with the exception of certain cases of aneurism, where the patients find their symptoms much aggravated by enforced repose, rest in bed is almost immediately followed by an amelioration of the severity of the symptoms. A combination of sedatives and antispasmodics will generally be found of great value in allaying the distressing symptoms of nerve irritation often present in these cases,—the paroxysmal dyspnœa, the cough, the vomiting, and the pain. A mixture of morphine with ether and ammonia is most serviceable, a few doses often having the effect of changing the whole picture of the malady. Unhappily, the change in the majority of cases is only temporary. For the relief of local nerve pains the mixed belladonna and chloroform liniments prove very efficacious. Hypodermic injections of morphine and atropine are most valuable resources, and the inhalation of chloroform is often attended with good effect. In cases where we have any reason to suspect that constitutional syphilis may be a causal agent, we should give large doses of iodide of potassium, with or without mercury, for some time. And one may every now and then have the satisfaction of seeing a rapid and complete disappearance of the distressing symptoms.

In cases of enlargement of the bronchial glands, much may be effected by judicious treatment. Change of air is one of the most potent remedies, from inland to the seaside, or from low level districts to high mountain regions. Removal to the seaside, together with warm or cold sea-baths, is of great value. Cod-liver oil, the syrup of the iodide of iron, the local application of the tincture of iodine between the scapulæ and over the superior sternal and supra-clavicular regions, are all means of well-known efficacy. Small doses of arsenic, especially in the form of the Eau de Bourboule, are very highly spoken of by French writers. This excellent water, which is not so well known as it ought to be, is given in doses of a wineglassful three times a day, with an equal quantity of milk.

RELATIVE CALIBRE OF THE TRACHEA AND BRONCHI (*The British Medical Journal*, June 8, 1878).—From his researches on the relative calibre of the trachea and bronchi, M. Marc Sée draws the following conclusions. In the normal state, the united calibres of the two bronchi are equal to the calibre of the trachea. It may be added, as the result of the measurement of a limited number of cases, that the united calibres of the bronchial divisions are equal to the calibre of the bronchus from which they spring. The respiratory tubes, therefore, are a cylinder, and not a cone. In pathological states, the equilibrium between the capacity of the trachea and that of the bronchi may be destroyed either in favor of the bronchi, as in chronic tuberculization, or of the trachea, as in emphysema.

WORMS IN THE NARES (*N. Y. Med. Jour.*, July, 1878).—Under the title of "A Curiosity in Practical Medicine," the following case is contributed by Urbanek. A soldier came under treatment with marked swelling, inflammation, and occlusion of the nasal passages. From both nares round white worms, 3 cm. long and 0.5 broad, were removed, and upon a later inspection of the parts quantities of smaller worms were discovered, which had bored into the walls of the septum and mucous membrane of the turbinated bones, at points through and through. On the soft palate was a whitish slough, which separated in a day or two, leaving a perforation with resulting disturbance of speech. Injections of carbolic acid quickly killed such of the worms as were not removed by the forceps. The patient, a few days earlier, while suffering from an acute rhinitis, had slept on a hot summer's day in a tent, and the writer believes that at that time some insect had deposited its eggs within the nasal cavities.

MISCELLANY.

THE USES OF ANATOMY.—Mr. Hensman draws attention, in the *London Lancet* for March 16, to the uses to which a knowledge of anatomy may be applied. Stuart's clavicular wheel for carriages claims a great form of strength coupled with lightness. It is strictly modelled after the human clavicle; that is to say, each spoke is curved precisely as the clavicle itself; and, true to his pattern, Mr. Stuart has flattened the outer curve, thus rendering the weaker one strong, to resist where the strain is heaviest. He has followed the shape of the inner curve, even in copying the ridges that bound the subclavicular groove, and thus materially adds to the strength of the spoke.—*Louisville Medical News.*

BENZOATED ALCOHOL.—Benzoated alcohol is much recommended by Dr. Templeton as a basis of valuable and pleasant antiseptic solution. It is recommended to dissolve half an ounce of the pure benzoic acid, prepared from the resin, in a pint of spirits of wine. Mixed with water, it makes a pleasant, effective, and innocuous lotion-gargle or spray.—*British Medical Journal.*

TREATMENT OF SHINGLES.—In herpes zoster, Dr. Amedée Mercier speaks highly of perchloride of iron locally. He uses thirty grammes of the perchloride of the Codex and ten grammes of alcohol, and applies it twice daily.

DR. HENDERSON has given (*London Lancet*, June 29) a careful and elaborate report of a successful case in which twenty ounces of pus were evacuated from an abscess of the liver by means of a tenotome with antiseptic precautions.

NOTES AND QUERIES.

July 24, 1878.

EDITOR PHILADELPHIA MEDICAL TIMES:

DEAR SIR,—The following report of a case of *fatal tobacco-poisoning* may be of interest to toxicologists and the profession in general, as it relates to the use of an article by no means rare. In all the works on toxicology the writer has had access to, he has been unable to find a case analogous; and though mild forms of tobacco-poisoning are unfortunately quite common, and some fatal instances are on record, the one under consideration he believes to be peculiar.

Michael Trainor, an Irishman by birth, aged about thirty-five years, and employed as a "deck-hand" on a steamboat, contracted fever and ague while on a trip down the Ohio and Mississippi Rivers in the spring of 1876. When he returned to Pittsburg, in the latter part of April of that year, he had not fully recovered from the malaria, but was not ill enough to be confined to the house.

Instead of consulting a physician, he accepted a prescription from a friend, who warranted its efficacy. This sovereign cure consisted of one-third pound of refuse tobacco (stems and leaves), and two or three heads of garlic, steeped in a pint of brandy. The dose was one tablespoonful three times a day, and the patient carefully followed the directions for three days, when his condition was so alarming that a physician was called to see him.

The doctor found him suffering severely from a pain in the stomach; pulse very feeble and rapid, almost imperceptible; respiration labored; extreme nausea, with vomiting and persistent hiccough; low, muttering delirium. He was covered by a cold, clammy perspiration, and greatly exhausted.

Stimulants (whisky and carbonate of ammonia) were prescribed, and warm applications to the stomach and abdomen recommended. His condition was much the same the next day, and the day following the pain in the stomach became very severe. The nausea and vomiting still continuing, the attendant had recourse to a hypodermic syringe for the administration of morphia. The prick of the needle on the abdomen induced a convulsion, during which the man expired.

In all the reported cases of fatal tobacco-poisoning I have seen, death has resulted from a single large dose of the manufactured article. In the above, four or five ounces of the tincture had been ingested in divided doses, extending over a period of three days. CHARLES STONER SHAW.

292 PENN AVENUE, PITTSBURG, PA.

BALTIMORE, July 25, 1878.

PROF. H. C. WOOD, M.D., PHILADELPHIA:

MY DEAR DOCTOR,—I am glad you have noticed the Buffalo Lithia Springs, as they deserve far more consideration and attention from the profession and the public than they have hitherto received. My position in their midst, during last summer, as resident physician, enabled me to become quite well acquainted with their truly valuable medicinal properties in the treatment of many of the ills to which flesh is heir. And I do not hesitate to say, as the result of my personal observation, that in certain subacute and chronic conditions of the uro-genital organs in both sexes, Spring No. 2 stands unrivalled for its remedial virtues. In chronic affections of the female reproductive organs, the water of this spring approaches a specific.

In various chronic diseases I have witnessed most gratifying and satisfactory results from the use of this alone, or in conjunction with Springs Nos. 1 and 3, the enumeration of which would far exceed the limits of a note of this sort. The situation of the Springs is pleasant, and the tone of the place and surrounding country excellent. Add to the foregoing comfortable quarters, good fare, and the attentions and kindness of one of the most genial and pleasant of hosts, such as will be found in Colonel Thomas F. Goode, and the invalid could hardly find a more desirable resort for a few months than Buffalo Lithia Springs.

Very respectfully and truly yours,
HARVEY L. BYRD, M.D.

EDITOR PHILADELPHIA MEDICAL TIMES:

A prominent druggist of this city has recently distributed a circular among physicians, in which dialyzed iron is stigmatized as a worthless preparation. As my own experience has led me to a different result, I was much pleased to read in the current number of the *London Practitioner* an account of some experiments of Professor Gowers, by which he proves conclusively the efficacy of the preparation mentioned. I have noticed that large doses (from one-half to one drachm three times daily) produce a more rapid improvement than small ones; and I am in the habit of advising anæmic patients to continue such doses until at least a pint of the preparation shall have been taken, that the improvement may become permanent.

Respectfully, F. L. HAYNES.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM JULY 14 TO JULY 27, 1878.

SIMONS, J., LIEUTENANT-COLONEL AND SURGEON.—Granted leave of absence for twenty days. S. O. 157, A. G. O., July 20, 1878.

BAILY, J. C., MAJOR AND SURGEON.—When relieved, to return to his station, Presidio of San Francisco, Cal. S. O. 97, Division of the Pacific and Department of California, July 1, 1878.

JANEWAY, J. H., MAJOR AND SURGEON.—Granted leave of absence for three months. S. O. 160, A. G. O., July 24, 1878.

HUBBARD, V. B., CAPTAIN AND ASSISTANT-SURGEON.—To report to Major Sanford, First Cavalry, for field duty with his command, relieving Surgeon J. C. Baily. S. O. 97, c. s., Division of the Pacific and Department of California.

CALDWELL, D. G., CAPTAIN AND ASSISTANT-SURGEON.—To report to Commanding General Department of the East for assignment. S. O. 157, c. s., A. G. O. Assigned to duty as Post-Surgeon at Fort Independence, Mass. S. O. 128, Department of the East, July 24, 1878.

CRONKHITE, H. M., CAPTAIN AND ASSISTANT-SURGEON.—To report to Commanding General Department of the East for assignment to duty. S. O. 160, c. s., A. G. O.

WILSON, WM. J., CAPTAIN AND ASSISTANT-SURGEON.—To report to Commanding General Department of the East for assignment to duty. S. O. 160, c. s., A. G. O.

AINSWORTH, F. C., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to duty with battalion Eighth Infantry, ordered to duty in the field. S. O. 97, Division of the Pacific and Department of California, July 1, 1878.

BIART, V., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—To report to Commanding General Department of the Missouri for assignment to duty. S. O. 160, c. s., A. G. O.

GRAY, WM. W., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty at Willet's Point, N. Y. H., and to report to Commanding General Department of the Columbia for assignment to duty. S. O. 160, c. s., A. G. O.

BRECHEMIN, L., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—To report to Commanding General Department of Dakota for assignment to duty. S. O. 160, c. s., A. G. O.

LA GARDE, L. A., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—To report to Commanding General Department of the East for assignment to duty. S. O. 160, c. s., A. G. O.